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ABSTRACT

A study undertaken to evaluate the status of the University of Missouri-Columbia's map collections is described in this report, and forecasts are made for necessary facilities, equipment, and personnel to accomplish a proposed reorganization and online cataloging of the university's geology and geography map collections. Included in plans for creation of a centralized map unit within the library system are specifications of storage and access space, equipment, and personnel requirements. Statistics for cataloging retrospective and current map materials are derived from processing times and equipment, personnel, and start-up costs. Presented in the report is a policy statement regarding the extent of commitment to preservation work for the map collections. Final recommendations are to (1) begin immediately to catalog all current map acquisitions, (2) establish a central map unit, and (3) prepare a grant proposal for retrospective map cataloging. Supplementary materials include bibliographies on map preservation and map library development, sample processing forms, tables of processing times, and the formula used to calculate yearly work hours. (SW)

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MAP STUDY COMMITTEE

UNIVERSITY OF MISSOURI - COLUMBIA

LIBRARIES

FINAL REPORT

JULY 1980

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Section 1. Introduction

The following report has been produced by the Map Study Committee of the University of Missouri-Columbia Libraries. The committee took its' charge from a letter dated September 28, 1979 by the Associate Library Director to the members of the proposed committee. The committee was to "prepare a planning report which will detail a program for servicing our maps which will meet recommended standards in map librarianship."

An examination of the history of cartographic publication shows a consistent pattern of expansion - mostly by government agencies. This expansion is rooted in both social and technological trends. Increased demand for cartographic information began with the needs of the military during World War II and the Korean conflict. In the 1950's, additional demand was created by the vast expansion of domestic public planning activities, a trend that continues to this day. The use of aerial photography, stereoplotting instruments, and (more recently), the computer allows the quicker production of a greater quantity of more accurate maps than ever before.

Major government agencies, and to a lesser degree a number of state and regional agencies, distribute many of their map publications free to information centers such as urban public libraries and university research libraries. The UMC Libraries receive most of the significant depository programs. The U.S. Geological Survey topographic, geologic, and land-use depositories (three separate programs; about five thousand new items a year) are received in the Geology Library. The U.S. Defence Mapping Agency depository program (approximately three hundred new items a year) is received in the Geography collection. Other cartographic materials are received via the Superintendant of Documents depository program, although

several cartographic series available through this source have been declined over the years for various reasons. Maps received by way of depository agreements constitute the vast majority of annual map acquisitions.

In the discussions that took place during the early work of the committee, there developed a consensus that a more formal organization of map services in the campus libraries is required. The opinion of the committee is that it is entirely proper for the research library of a major land-grant institution, with its' attendant emphasis on the physical and other land-related sciences, to have a firm and continuing commitment to the adequate delivery of cartographic information. The following report is an attempt on the part of the committee to elucidate ways in which the present quality of map services in the UMC Libraries can be improved. The committee does not pretend that this report is the last word on the subject; quite the contrary, it is just the beginning. If the objective of improvement is to be realized, efforts will have to be made over an extensive period of time.

Section 2. Plan for a central map unit

Academic or Administrative Affiliation

In an academic environment, the two usual possibilities for a map library are either to be a part of the library system or of an academic department, generally one of the earth sciences such as geography or geology. Both possibilities offer advantages and disadvantages.

"Affiliation with a library system generally means steadier and more balanced budgets in the long run besides the assurance that eventually the library will be staffed by employees at the professional level. Collection development and service patterns are geared to serve the entire campus uniformly."[1]

Affiliation with an academic department generally means that the faculty will have extensive knowledge of the library materials and a good understanding of the library's needs. The negative aspects, however, are numerous. "To begin with the sublime, a facility intended for campus-wide use should reflect campus-wide interest, not only those of an academic department's members, and it should be centrally located so that it is accessible to the widest possible spectrum of users."[2] Budgets generally are inadequate, especially in terms of personnel and the possibilities of hiring professional staff. Collection development and library policies are closely subordinate to the needs of the particular departments without much consideration for the overall needs of the rest of the campus. Moreover service patterns usually are strongly biased toward the faculty and students of the academic department involved at the expense of a wider service pattern that considers the need of the campus at large. Moreover "geography departments are often not convinced as to the necessity for library training for map curators. Another problem is the incredible accessibility of departmental map collections to the members of the department; generally all faculty members and some graduate students

have keys, and thus one of the primary bases of a library, knowing where what you have is located at a given time, is thrown out the window."[3]

A study of the University of Minnesota Map Collection is an enlightening example in determining a decentralized or a centralized location for a map collection. The University of Minnesota's Map Collection is presently located in the sub-basement of the main library, but for some years was located in the geography department. While in that department, the map librarian noted that the maps were used mainly by the geography department and its students, and the map room functioned as a very crowded laboratory for assigned work; the bulk of the collection was generally neglected, suggesting a sense of a "private" library that may well have acted as a psychological barrier to prospective clients. When the map library was moved to the main library in 1969, the user profile changed to that found in most centralized map collections; use doubled while the working relationship with the geography department remained strong.[4]

What it seems to come down to is that the geography and geology departments both need to have small departmental collections to serve as teaching collections. If the collection is of considerable size and broad scope, it becomes an enormous intellectual responsibility, a rich legacy that is deserving of a centralized collection and the largest possible number of users. Administration by a main library system can assure an adequate budget, controlled access, leading to retention and preservation of materials and control of circulation adding up to equal rights for all users.[5]

Map Count

During the month of October, 1979, students conducted piece counts of the maps in the Geology and GHP Libraries. The Geology Library has approximately

70,000 maps which are parts of major series and for which we recommend only cataloging for the series (open entry). In addition to these maps, Geology has 8,457 maps for which we do recommend cataloging as separate pieces. The entire GHP collection, 31,111 maps, needs to be cataloged. LC cards for perhaps 2,000 of these maps are already here for they were used at one time; the maps would have to be reclassified, however, as the exact LC G Schedule was not utilized originally. Combining these two collections in Geology and GHP, we have approximately 109,568 maps and recommend separate cataloging for 39,568 of these.

Space and Equipment

If the Geology and GHP maps were combined in one place, as we recommend, there would be unusual requirements of space and location. Maps require large horizontal areas, and the weight of the steel map cases and the maps they contain might make it desirable, if not mandatory, that the map library be located on a ground floor.

The provision of adequate space to store and consult the maps is another important consideration. Larsgaard states that 2,000 square feet are needed per 100,000 maps (assuming five-drawer map cases stacked two high with 100 maps per drawer). Map cases would fill this area, however; an area twice this size would be more appropriate.[6]

Catherine Bahn, in her article "Map Libraries--Space and Equipment," suggests a formula to arrive at the floor space for storage and reading and work areas. According to her, to arrive at the minimum floor space needed for storage, double the square footage occupied by equipment. For reading and working areas, triple the square footage occupied by equipment and furniture. The diagram below represents her suggested use of floor space and equipment for a map library and with a collection of approximately 100,000 maps together with requisite reference and working materials:[7]

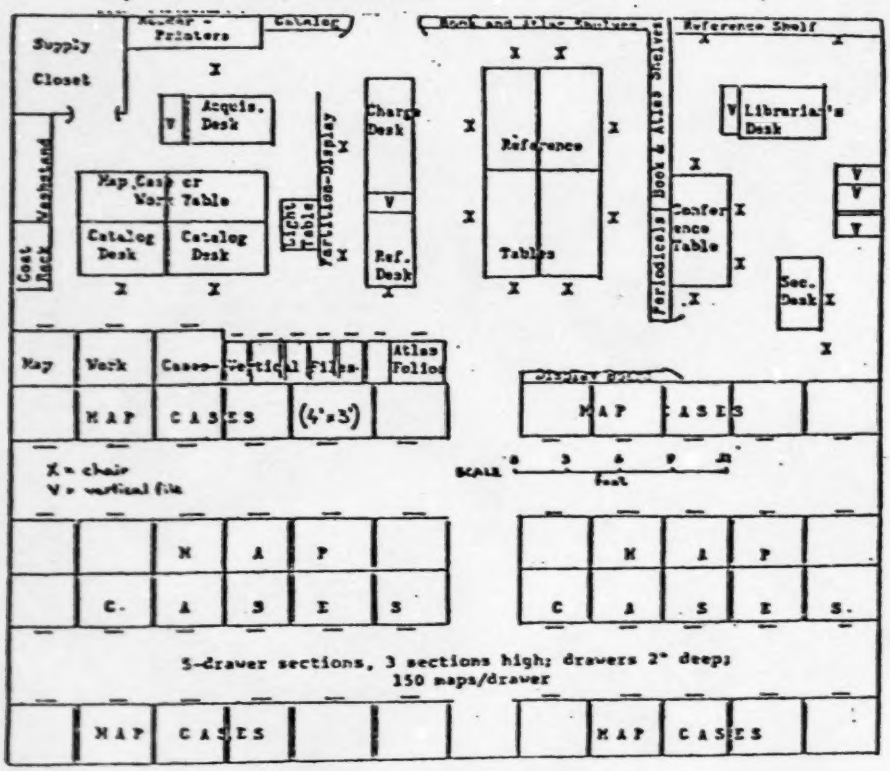

Figure 2. Map Room. 864 sq. ft. of furniture and equipment in a 2016-sq.-ft. room (48' x 42') for a collection of 100,000 maps. Work area expandable into storage area by narrowing aisles between map cases. Storage area map cases expandable upward.

X = Chair
V = Vertical Files

We would need to enlarge Bahn's plan, of course, as we already have more than 100,000 maps in a growing collection (approximately 5,000-5,300 maps added annually). Her diagram, however, provides us with some idea of the amount of space we would need.

Larsgaard recommends that at least 150 square feet be allotted for the map librarian's office and a minimum of 10 square feet and up to 30-50 square feet per library user.[8]

Following is a chart indicating the map drawers currently available in GHP and Geology. The dimensions of each unit are given along with the square footage

occupied by all of the units. Using Catherine Bahn's formula to arrive at the floor space for storage and reading/working area, one can arrive at her recommended floor space--if the present GHP and Geology map collections were housed in the same place.

Location	Number of Drawers	Units	Dimensions	Real Depth	Sq. footage (drawers in)	Total Square Footage
GHP	2 (5-drawer) Hamilton 1835-J1884-48	1	41" x 29 1/2"	5 1/2'	8.40	8.40
GHP	4 (5-drawer)	2	53" x 42"	7 3/4'	15.46	30.92
GHP	3 (5-drawer) Hamilton 6J1-20-73	1 1/2	46 3/4" x 36 3/16"	7 1/2'	11.75	17.63
GHP	30 (5-drawer) Hamilton J1867-3-47	15	54" x 42 1/2"	7'	15.94	239.10
GEOL	6 (5-drawer) Hamilton 6J1-20-73	3	46 3/4" x 36 3/16"	7 1/2'	11.75	35.25
GEOL	21 (5-drawer) Hamilton 3J1-28-74	10 1/2	55 1/4" x 45"	8'	17.27	181.34
GEOL	27 (5-drawer)	13 1/2	20 1/2" x 26"	5 1/2'	3.70	+ 49.95
						562.59
					Storage	1,125.18
					Reading/Working +	1,687.77
					TOTAL	3,375.54

Geology needs approximately 1 1/2 of the Hamilton 3J1-28-74 units each year, and GHP needs 3/5s of the Hamilton 6J1-20-73 each year (or 1 every 1 1/2 years). Together, GHP and Geology needs approximately 2 of the Hamilton 3J1-28-74 units each year. This is a projected annual additional space need of 34.54 square feet for equipment, 69.08 square feet for storage and 103.62 square feet for reading/working--for a total of 207.24 additional square feet needed annually.

Banks of ceiling lights would have to be coordinated according to the location of the map cases, and this might pose a problem if we were to use existing facilities. Generally, indirect, incadescent lighting producing illumination of 30-50 foot-candles is recommended.

Because map libraries tend to be noisy places, sound absorbing (cork, rubber or vinyl) floors and ceilings are recommended. An air conditioning system which keeps the temperature between 65-70 degrees with the humidity between 30 and 50 percent is recommended for the preservation of the maps and related materials. Filtered air would save much cleaning of these same materials.

The selection of equipment is of course an important decision, one which hopefully will result in an easily accessible and yet protected collection. Following is a list of some equipment which should be considered:

atlas cases (roller shelves)-----$500. (average)

card catalogs (10-drawer)-----$275.50. (Demco)

chairs-----seats should be 18" above the floor-----$50.25. (Demco)

dictionary stand-----$41. (Jostens)

display boards or poster walls----36" x 48'-----$20.25.

display table-----$349. (Demco)

drafting table

File cabinets (4-drawer)-----$100. (average)

furniture-----sturdy, comfortable, easy to clean wood, fabric inserts rather than plastic, formica table tops.

globe-----$40-$50. (average)

laminator and other repair and preservation equipment-----$500. (average)

library tables-----10 square feet allotted to each reader (table space); 6' x 3' (users)--29-39" above floor-----$225.75. (Jostens)

12' x 6' (processing)

light table or light box.

locked exhibition case-----$500. (average)

magazine racks-----$200. (average)

magnifying glass (table model)-----$90. (average)

map cases-----50" x 38" x 2" (steel)-----$500.

map projector for enlargement and reduction.

map tracing equipment (glass-topped illuminated tracing table)

microform reader (fiche and film)-----$465. (average)

mirror stereoscopes.

natural scale indicator.

planimeter.

shelving.

staff desks-----60" x 36" (holds typewriter)-----$401 (Litton Cole)

step stools-----$22.50. (Demco)

Trucks-----wide, flat-topped with dividing shelves-----$100. (average)

typewriter desks (at least two)-----$120. (Demco)

typewriters (at least two)-----IBM Selectric II-----$760.

waste baskets-----$12.90. (Litton Cole)

Personnel

Every map collection needs a professional librarian to work on it, preferably one with an additional masters in the field of geography or a related field, even if it is a small collection. This is especially true in this age of information retrieval, automation and information explosion. Larsgaard suggests that in a small size map collection (75,000 maps), the map librarian can probably be part time in maps and part time elsewhere in the library. Secretarial and clerical help will be required. Generally a 1:1 ratio of librarian to clerical help is

considered appropriate. Other recommendations (Stevens & Hagen) call for 1 map librarian, 1 full time assistant (minimum) and as many students (equivalent to one full time staff member) that would provide overlapping of time to account for absences due to staff meetings, vacations and lunch break. Ideally 3 full time persons are required to work a map collection.[9]

Committee's recommendation: A full time map librarian spending half time as public services librarian for the map collection and half time as map cataloger--plus 1 full time library assistant and as many students as possible.

NOTES

[1]Carlos B. Hagen, "The Administration of a Map Library," Drexel Library Quarterly, 9 (Oct. 1973), 80.

[2]Mary Larsgaard, Map Librarianship: an Introduction (Littleton, Col.: Libraries Unlimited, 1978), p. 206.

[3]Larsgaard, p. 206.

[4]Mai Treude, "Location and Administration of a Map and Atlas Collection," Special Libraries Assoc. Geography and Map Division. Bulletin, 89 (Sept. 1972), 32-40.

[5]Carlos B. Hagen, "The Survey of the Usage of a Large Map Library," Special Libraries Assoc. Geography and Map Division. Bulletin, 80 (June 1970), 27-30.

[6]Larsgaard, p. 208.

[7]Catherine I. Bahn, "Map Libraries--Space and Equipment," in Map Librarianship: Readings, comp. Roman Drazniowsky (Metuchen, N.J.: Scarecrow, 1975), p. 367.

[8]Larsgaard, p. 209.

[9]Stanley D. Stevens, "Planning a Map Library? Create a Master Plan!," Special Libraries 63 (April 1972), 176.

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Section 3. Statistics for cataloging retrospective and current map materials.

One of the tasks of the map study committee was to prepare a plan for improved access to the map collections. The committee learned that it had been a policy at the UMC Libraries for between ten and fifteen years not to catalog maps. As a result of this policy a cataloging backlog estimated at 40,000 items had developed. This backlog was seen as perhaps the major obstacle to improvements in the delivery of cartographic information services. The committee recommended the implementation of a fifty piece pilot cataloging project from which cost-time statistics could be derived for a retrospective map cataloging program. In December 1979, this recommendation was accepted.

Fifty items from the Geology and Geography map collection (25 each) were selected for the project by the heads of the respective libraries. Selection was intended to be representative of the holdings of each of the collections. The following processing activities were identified: searching, monograph cataloging, serials processing, serials cataloging, input, accessioning, marking, and catalog card filing. (In addition, two other processing activities were identified but their time records were incorporated elsewhere in order to simplify the computational process. Revision of local input was incorporated with monograph cataloging. Monographic name cross-reference processing was incorporated with serials processing.) Forms were constructed on which the time spent on each activity could be recorded for each piece as it was being processed. A catalog department map workform was prepared for use by the cataloger and terminal operator (see Appendix A for sample copies of the forms). One copy of each form was attached to each of the maps. Between January and May 1980 the maps were processed. Amount of time invested in processing was recorded on the forms. Forms, series-tracing slips, and cross-reference slips were left attached to the maps. When catalog cards were received

these also were sorted and attached to the maps. The fifty items in the sample were then divided by type of cataloging copy. Statistics for processing were transcribed in four tables (see Appendix B). Each table represents a particular type of cataloging copy. From these tables two statistics were compiled; "percentage of sample by type of copy," and "number of pieces processed per hour by type of copy." The former was easily calculated mentally (e.g., 16 of the total of fifty items were "member" copy therefore the percentage for this type of copy is 32). The latter was calculated by adding the unit figures for each activity for each item, totaling the derived figures, dividing by the number of pieces for that particular copy group then dividing 60 by that number.

These two statistics were used to compile cost-time estimates for retrospective and current map cataloging.

Statistics for Retrospective Cataloging

Amount of Work (percent of sample times 40,000 equals the total number of items to be processed divided by number processed per hour equals total hours for processing)

Type of copy	% of sample	Number to be processed	Number processed per hour	Total hours
Member copy	32	12800	1.025	12487
LC data-base copy	16	6400	1.974	3242
LC local input	18	7200	.701	10271
Original	34	13600	.601	22628
		Total hours of work for project		48628

Hours Needed (see Appendix C for an explanation of how unit figures by status were calculated)

Quantity	Status (hours per year)	Total hours (year)
3	Librarian II (1317)	3951
2	Library Assistant I (1440)	2880
1	Library Clerk II (1440)	1440
1	FTE student assistant level I (2000)	2000
	Total hours needed per year	10271

Length of project

$$\frac{\text{48,628 hours of work}}{\text{10,271 hours needed per year}} = 4.73 \text{ years (or 4.75 for computational purposes; 4 years, 9 months)}$$

Cost Statement

Personnel

Quantity	Status (yr. salary)	Total (4.75 yrs.)
3	Librarian II (14,500 est.)	206,625
2	Library Assistant I (9547)	90,696
1	Library Clerk II (7946)	37,743
1	FTE student assistant level I (6040)	28,690
	Total personnel costs for project	$363,781

Cost Statement (continued)

Equipment

2 terminals ($3700 ea.)	$ 7,400
2 Modem ($160 / month)	9,120
Service contracts for 2 terminals ($33 per terminal per month)	3,762
FTU charges (48% of sample or 19,200 titles / $1.495 per title)	28,704
Card charges (40,000 titles, 11 cards per title, .036 per card)	15,840
Archive tapes (4¢ / record)	160
Total equipment costs for project	$ 64,986

Yearly Cost Analysis

	Yearly Personnel Costs	Yearly Equipment Costs	Start-up Costs	Total Costs for Year
Year 1 (21% complete 8400 items processed)	$ 76,394	$ 12,122	$7400	$ 96,043
Year 2 (42% complete 16,800 items processed)	76,394	12,122		88,516
Year 3 (63% complete 25,200 items processed)	76,394	12,122		88,516
Year 4 (84% complete 33,600 items processed)	76,394	12,122		88,516
Year 5 (100% complete 40,000 items processed)	58,204	9,176		66,940
			Total cost for project	$428,531

Statistics for the cataloging of current map acquisitions

Amount of Work (based on 1000 items)

In the following statement, the figure "percent of sample by type of copy" was estimated after telephone discussions with map catalogers at institutions presently engaged in on-line cataloging.

Type of copy	Percent of sample	Number to be processed	Number processed per hour	Total hours
Member	45	450	1.025	431
LC data-base copy	32	320	1.974	163
LC local input	3	30	.701	43
Original	20	200	.601	333
		Total amount of work per year for current map cataloging		970

Additional OCLC Costs

FTU charges (1.498 ea. / 770 titles)	1151.15
Card charges (.036 cents per card / 11 cards per title)	3.96
Archive tapes (.4 cents each / 1000 records)	4.00
	$ 1159.11

Map Cataloging Search Form

Record no.

University of Missouri--Columbia.
Ellis Library.

Date

Name

Please search under the following:

LC card number 010

ISBN 020

Suggested access points: 100

Suggested added entries: 700

title: 245

Series entries: 800

Any other additional information:
Edition: 250

Physical description: 300

Publication/distribution: 260

Search time:

Additional searching needed (Source & time)

Note to cataloger:

Cataloging Dept. Map cataloging Pilot Project.

Cataloger:

Map received date:

Map condition:

Any other additional searching needed:

Time invested in cataloging:

Recommendations:

Name and date

Input data

Time invested:

Name:

Marking Data

Time invested:

Name:

Total time for processing, including filing of cards, etc.

Map Cataloging Pilot Project

Serials Dept.

Searching series
(Verification of series entry and LC treatment)

Time invested:

Name:

Series decision

☐ Analyze

☐ Do not trace series

Time invested:

Name:

Cataloging series

Time invested:

Name:

Preparing series flag

Time invested:

Name:

Typing Form 74 cards

Time invested:

Name:

Typing DNT card

Time invested:

Name:

Total time for series processing, excluding filing of temporary slips, cards, etc. :

Appendix A: Sample 4 (photoreduced to 60 percent of original)

OCLC

Rec Stat

OCLC WORKFORM - - - MARC whse

Entrd

Upd

Type

Bib lvl

Lang

Source

Form

Relief

RecG

Enc lvl

Ctry

Dat tp

Pub C

Indx

Desc

Mod rec

Base

Ctrl no

Dates

010	
040	MUU cMUU
020	
024	
041	
043	
090	
049	
1_ _	
245_	
260	
300	
4_ _	
507	
5_ _	
6_ _	
7_ _	
8_ _	

1930

Appendix B: Tables

Table 1. Member copy

Piece #	Searching	Monograph Cataloging	Serials Processing	Serials Cataloging	Input	Accessioning	Marking	Filing Cards	Sub-total (time per item)
1	:03	:20			:05	:02	:01.5	:04	:35.5
2/3	:01	:05	:01	2:35	:10	:04	:03	:04	3:07
4	:05	:15	:10	:53	:05	:02	:01.5	:04	1:35.5
5	:03	:10	:03		:10	:02	:01.5	:04	:35.5
6	:03	:15	:03		:15	:02	:01.5	:04	:43.5
7	:05	:15	:09	:21	:15	:02	:01.5	:04	1:12.5
8	:09	:15	:04	:45	:07	:02	:01.5	:04	1:27.5
9	:11					:02	:01.5	:04	:18.5
10	:06	:10	:01	:17	:05	:02	:01.5	:04	:46.5
11	:13	:15			:02	:02	:01.5	:04	:37.5
12	:03	:15			:03	:02	:01.5	:04	:35.5
13	:07	:10	:09	:13	:09	:02	:01.5	:04	:55.5
14	:03	:15			:03	:02	:01.5	:04	:28.5
15	:03	:10			:03	:02	:01.5	:04	:23.5
16	:07	1:10	:09	:10	:30	:02	:01.5	:04	2:13.5

Total 936 minutes

$\frac{936 \text{ min.}}{16 \text{ items}}$ = 58.5 min. per piece

$\frac{60}{58.5}$ = 1.025 (number processed per hour)

Appendix B

Table 2. LC data base copy

Piece #	Searching	Monograph Cataloging	Serials Processing	Serials Cataloging	Input	Accessioning	Marking	Filing cards	Sub-total (time per item)
1	:31	:10	:07	:16	:05	:02	:01.5	:04	1:16.5
2	:03	:10			:02	:02	:01.5	:04	:22.5
3	:08	:10			:02	:02	:01.5	:04	:27.5
4	:03	:10			:02	:02	:01.5	:04	:22.5
5	:03	:10			:02	:02	:01.5	:04	:22.5
6	:03	:05			:03	:02	:01.5	:04	:18.5
7	:07	:05			:05	:02	:01.5	:04	:24.5
8	:07	:10			:04	:02	:01.5	:04	:28.5

Total 243 minutes

$\frac{243 \text{ min.}}{8 \text{ items}}$ = 30.38 min. per piece

$\frac{60}{30.38}$ = 1.974 (number processed

Appendix B

Table 3. LC copy input locally

Piece #	Searching	Monograph Cataloging	Serials Processing	Serials Cataloging	Input	Accessioning	Marking	Filing cards	Sub-total (time per item)
1	:05	:20	:10		:45	:02	:01.5	:04	1:27.5
2	:17	:30	:07	:11	:25	:02	:01.5	:04	1:37.5
3	:11	:35	:09	:21	:35	:02	:01.5	:04	1:58.5
4	:18	:18	:05		:15	:02	:01.5	:04	1:03.5
5	:15	:19			:15	:02	:01.5	:04	:56.5
6	:28	:25			:16	:02	:01.5	:04	1:16.5
7	:18	:20			:17	:02	:01.5	:04	1:02.5
8	:18	:15	:14	:08	:50	:02	:01.5	:04	1:52.5
9	:18	:20	:09	:12	:28	:02	:01.5	:04	1:34.5

Total 769.5 minutes

$\frac{769.5 \text{ min.}}{9}$ = 85.5 min. per piece

$\frac{60}{85.5}$ = .701 (number processed per hour)

Appendix B

Table 4. Original cataloging copy

Piece #	Searching	Monograph Cataloging	Serials Processing	Serials Cataloging	Input	Accessioning	Marking	Filing cards	Sub-total (time per item)
1	:20	:20			:10	:02	:01.5	:04	:57.5
2	:23	:27	:01	:02	:13	:02	:01.5	:04	1:13.5
3	:25	:30	:03		:15	:02	:01.5	:04	1:20.5
4	:26	:25	:04		:15	:02	:01.5	:04	1:17.5
5	:27	:30	:25	1:39	:20	:02	:01.5	:04	3:28.5
6	:11	:35	:08	:21	:20	:02	:01.5	:04	1:22.5
7	:06	:15	:10	:13	:15	:02	:01.5	:04	1:06.5
8	:11	1:05	:07	:21	:20	:02	:01.5	:04	2:11.5
9	:11	:25	:08	:50	:20	:02	:01.5	:04	2:01.5
10	:08	:20	:17	:36	:25	:02	:01.5	:04	1:53.5
11	:22	:30	:26	:46	:20	:02	:01.5	:04	2:31.5
12	:12	:18			:15	:02	:01.5	:04	:52.5
13	:12	:27			:15	:02	:01.5	:04	1:01.5
14	:22	1:15			:25	:02	:01.5	:04	2:09.5
15	:10	:17			:10	:02	:01.5	:04	:44.5
16	:18	1:05			:15	:02	:01.5	:04	1:45.5
17	:17	:40	:08	:40	:25	:02	:01.5	:04	2:17.5

Total 1695.5 minutes

$\frac{1695.5 \text{ min.}}{17 \text{ items}}$ = 99.74 min. per piece

$\frac{60}{99.74}$ = .601 (number processed per hour)

Appendix C

Method of calculation of number of yearly work hours by status.

Librarian II

2080	base number of hours per year
- 80	10 holidays
2000	
-192	24 days vacation
1808	
- 52	39 hour week
1756	
x.75	deduct 25% for supervision, instruction, coffee breaks, etc.
1317	total real working hours per year

Library Assistant I

2080	base
- 80	10 holidays
2000	
- 80	10 days vacation
1920	
x.75	deduct 25% for supervision, coffee breaks, etc.
1440	total real working hours per year

Library Clerk II

2080	base
- 80	10 holidays
2000	
- 80	10 days vacation
1920	
x.75	deduct 25% for supervision, coffee breaks, etc.
1440	total real working hours per year

Section 4. Preservation of map materials in the UMC collections.

The following statement is less concerned with the technical aspects of preservation than with the development of policy regarding the extent of commitment to preservation work for the maps presently held at the UMC Library collections. Sources of information about the technical aspect of preservation work are legion; some of the significant references are listed in a short bibliography following the text of this section of the report of the map committee. Chapter four of Mary Larsgaard's book titled Map Librarianship is an excellent, very readable summary of the state of the art of map preservation and storage.

All libraries must decide on the extent of commitment to an archival collection. It is the opinion of the committee that an unlimited commitment to an archival collection for the maps in the UMC Libraries, in the form of an attempt to acquire a large quantity of resources in order to maintain indefinitely the physical condition of all original documents, is not really justified. The following qualifications are offered.

All materials should be subject to what may be called "normal" preservation efforts. By this is meant the attainment of proper physical conditions. Lighting, temperature and humidity in the map unit should be carefully controlled. An adequate quantity of storage should always be maintained as nothing contributes more to wear on maps than filing and retrieving them from overcrowded map drawers. Physical damage to materials during normal use should be attended to promptly by the library staff, through the use of acid-free, transparent tape, for example.

Although the quantity of rare or valuable items in the UMC map collections is not considered to be great, it is likely that occasional pieces that may be so described, will be identified. These items should be subject to

state-of-the-art preservation efforts. This falls within the purview of the Special Materials Librarian. If this librarian so recommends, consideration should be given to housing valuable map materials in the Rare Book room. Manuscript maps would frequently fall within this category.

Reliance on shared resources is an increasing component of library planning. This trend should be reflected in map preservation policy-making. A case study is offered: The Geology Library contains an estimated ten to twelve thousand late-nineteenth and early-twentieth century topographic quadrangle sheets at scales of 1:63,000 and 1:125,000. Many of these sheets display cultural or physical features that no longer exist (i.e., they have historical value). If UMC viewed itself as an archival collection, then it would make every effort to acquire the resources for the preservation of these sheets. The likely preservation medium would be polyester film encapsulation, a not inexpensive process. It is a fact however that use patterns in the UMC collections run heavily toward contemporary rather than historical data. Improved organization of the collections might modify this trend somewhat, but it certainly would not reverse it. For several years, the National Cartographic Information Center has been implementing a program for microfilming a complete set of the Geological Survey's older topographic sheets. It would not be reasonable for UMC to invest resources in the preservation of its older topographic sheets in light of the fact that the information will be available elsewhere, and in light of the fact of the need for an emphasis on acquiring contemporary data. Exploitation of possible shared resources is an essential way for the UMC Library to maintain and even expand local access while reducing the need for the commitment of scarce local resources.

It should be clear that the implementation of adequate preservation policy requires the frequent application of sound judgement. The importance

of competant, knowledgeable professional staff cannot be overstated.

Selected Bibliography of Map Preservation

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Section 5. Recommendations of the Committee.

1. Begin immediately to catalog all current map acquisitions.

As was indicated earlier in this report, it has been at least a decade since maps in the UMC Libraries have been cataloged. The Geography and Geology collections contain an estimated 40,000 uncataloged maps. It is imperative that the cataloging of current map acquisitions begin immediately so the backlog will not continue to grow.

A room adjacent to the technical services division should be designated the Map Processing Room (MPR). Furniture requirements for this room are: a table with chairs, a typewriter, typing table and chair, and perhaps one section of standard seven-foot shelving.

Professional and non-professional staff should be diverted from other activities in order to regularly process current map receipts. Labor for map cataloging comprises approximately forty to forty-five percent of total processing time. The individual selected as map cataloger should be responsible for all monograph and serials decisions in a manner congruent with the practices of the Library of Congress. This individual should report through the monograph cataloging section of the technical services division.

Details may remain to be worked out, however in general, the workflow for map materials should be as follows: Maps would be sent to the MPR when received, regardless of the library unit in which they were received. Maps would be held in the MPR until processing was completed. Searching, preparation of catalog workforms, preparation of in-house series cards (cross-references, form 74's, etc.) if any, and any other processing activities through and including input would be performed by the staff of the MPR. Following

input, the catalog workform with any notes for monographic name cross-references would be sent to catalog maintenance. Catalog maintenance would prepare monographic name and subject cross-reference cards, and would file the workform as usual pending receipt of the card sets. Series cards prepared in the MPR would be sent to catalog maintenance for filing. Maps would be marked in the MPR and then sent to the public service unit.

Maps received for the Geography collection would be classed with the MAP location symbol and an auxiliary card set would be produced for a catalog in that library unit. Maps received for the Geology collection would be classed with the GEOL location symbol and an auxiliary card set would be produced for the Geology branch catalog.

2. Establish a central map unit.

The proposed central map unit should be implemented in accordance with the provisions of section two of this report. This unit would incorporate the maps in the Geography map collection and the maps received in Geology by way of the U.S. Geological Survey topographic and land-use map depository programs. A few, monographic general maps now in Geology would be incorporated as well. Personnel, equipment, and space requirements for the central map unit should be entered at the first opportunity into annual library budget requests. The map processing room (recommendation #1) would cease to operate with the development of a central map unit. The latter would assume the activities of the former.

3. Prepare a grant proposal for retrospective map cataloging; evaluate the possibility of cooperation with other libraries in development and submission of proposal.

The statistics for retrospective cataloging presented in section three of this report may be refined to form the basis of a grant proposal. It is noted that the estimated cost for a comprehensive cataloging project is

slightly less than a half-million dollars. The resources required for a comprehensive project may be so great as to make this an unrealistic objective. Consideration should be given to the thought of preparing a proposal for a lesser number of maps.

The Department of Education Title IIC statute and the Library Services and Construction Act are two possible sources of grant money. Proposals for Title IIC are submitted directly to the Department in Washington, D.C. Proposals for "LSCA" money are submitted through the state library. It has come to the attention of committee members that a Missouri state university library has recently established a map unit and hired a map librarian. This development suggests the possibility of increased interest on the part of the statewide library community regarding the condition of maps in libraries. A cooperative proposal by UMC and some state university libraries for LSCA funds for map cataloging might have a reasonably good chance of success.